

B1  
concl. head 150 should be capable of focusing the laser radiation to a small spot and control the position of this spot in two dimensions on the strip surface.

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Page 9, delete the whole paragraph starting in line 28 and replace it with the following new paragraph:

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B2  
Excellent results have been achieved in practice by a modified version of a diode laser pumped Nd:YAG laser (DynaMark T2) marketed by the German company IWKA. The laser emits pulses with a duration of 25 ns in a cycle time of approximately 0.1-1  $\mu$ s. The average power per pulse is 25 kW, with a peak pulse power of about 100 kW. This laser power is adequate for engraving colored metal surfaces, but should be increased when engraving bare metal surfaces.

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Page 10, delete the whole paragraph starting in line 13 and replace it with the following new paragraph:

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B3  
Each deflection device 152, 153 controls the deflection of the laser beam in one respective direction (x, y). By the combined action of the two deflection devices 152, 153, the laser beam L can be controlled in two dimensions over the strip surface. The deflection devices 152, 153, as well as the laser 100, are operated by a control means (not shown) which in turn is controlled by the computerized control unit 14 (Fig. 2). Preferably, the deflection devices 152, 153 are galvanometers of a type known per se, in which the rotation of a mirror 155, 156 is controlled by means of an electromagnetic field and feedback control.

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Page 11, delete the whole paragraph starting in line 16 and replace it with the following new paragraph:

B4

The provision of laser engravings on a limited surface also calls for careful positioning of the strip 1 during the engraving operation. Due to the indexing motion of the strip 1 into the tab forming unit 11, the strip 1 will swing and jump in all directions on its way from the supply 8 to the tab forming unit 11. To control the position of the strip 1, a guiding device 12 is arranged in the area of the engraving operation. This guiding device 12 should allow for careful positioning of the strip 1, but should not interfere with the intermittent progression of the strip 1 into the tab forming unit 11. Preferably, the strip 1 should not be clamped during the laser engraving operation, since this might disturb the indexing motion of the strip 1 or lead to stretching of the strip 1. Also, friction must be minimized. Typically, the strip 1 should be positioned with a precision of about 15  $\mu\text{m}$  in the lateral, or transverse, direction, at least when providing marks on the surface of the tabs 2. The vertical position of the strip 1 should also be carefully controlled within the focal region of the laser beam, typically about 0.2 mm.

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Page 13, delete the whole paragraph starting in line 27, and replace it with the following new paragraph:

B5

In order for the tab forming unit 11 to form each tab from the intended portion of the strip 1 (cf. the laser-engraved areas marked by ghost lines in Fig. 6), the engraving operation should be effected as close as possible to the tab forming operation. However, the laser unit 9 should preferably be physically unconnected to the tab forming unit 11 due to the excessive vibrations produced in the latter. Preferably, a sensor (not shown) is arranged in association with the tab forming unit 11 or the strip feeding means 13. The sensor is adapted to indicate when the strip 1 is in an immobilized condition, e.g., by sensing a dwell condition of the tab forming

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unit 11 or the strip feeding means 13. The output signal of the sensor is fed to the laser unit 9 to initiate the laser engraving operation on the surface of the immobilized strip 1.

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Page 14, delete the whole paragraph starting in line 23 and replace it with the following new paragraph:

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B6  
In the illustrated embodiment, the apparatus effects the laser engraving operation during the dwell time of the strip feeding means 13. This provides for excellent control of the strip position during engraving as well as a high production rate of laser-engraved tabs. Typically, the tab production unit 11 operates at a speed of 640 strokes/min or higher, with the strip 1 being immobilized during approximately 60 ms. In this time, the inventive apparatus is capable of providing three laterally spaced tab-forming strip portions with six laser-engraved letters each, the letters having a height of 2 mm (cf. Fig. 6).

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Page 15, delete the whole paragraph starting in line 18, and replace it with the following new paragraph:

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B7  
Finally, it should be emphasized that the invention by no means is restricted to the embodiments described in the foregoing, and modifications are feasible within the scope of the appended claims. In particular, it should be pointed out that the specific design of the can end is not crucial as long as the aimed-at laser engraved markings are provided on the tab to be attached thereto.

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See the attached Appendix for the changes made to effect the above paragraphs.